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Estimating Soviet and East European Hard Currency Debt

A Research Paper

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June 1980

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Estimating Soviet and East European Hard Currency Debt

Overview

We have developed new procedures for estimating the hard currency debt of the USSR and Eastern Europe [1] from Western financial statistics. The estimates of 1979 yearend gross debt and net debt for the countries surveyed are as follows:

Billion US $

	Gross Debt [1]	Net Debt [1]
Total	**77.1**	**64.7**
USSR	17.2	10.2
Poland	21.1	20.0
German Democratic Republic	10.1	8.4
Hungary	8.0	7.3
Romania	7.0	6.7
Bulgaria	4.5	3.7
Czechoslovakia	4.0	3.1
CEMA Banks [2]	5.2	5.2

[1] Gross debt equals USSR–East European liabilities to Western governments, commercial banks, suppliers, and other lenders. Net debt equals gross debt less financial assets, which consist of deposits placed with Western banks. The USSR and Eastern Europe have also extended export credits to hard currency buyers, but we lack adequate data to include these amounts in the estimates of financial assets. Because of rounding, components may not add to the totals shown.
[2] International Investment Bank (IIB) and International Bank for Economic Cooperation (IBEC).

By 1979 debt service equaled 18 percent of Soviet earnings from merchandise exports, sales of gold and arms, tourism, and transportation. Debt service ratios for the East European countries—based on exports to non-Communist countries—were 92 percent for Poland, 54 percent for the German Democratic Republic (GDR), 37 percent for Hungary, 22 percent for Romania, 38 percent for Bulgaria, and 22 percent for Czechoslovakia.

According to these estimates, the Soviet and East European gross debt to the West grew by $68.8 billion between yearend 1971 and yearend 1979; net debt rose by $58.7 billion over this period. Poland and the USSR accounted for more than one-half of the increase in USSR–East European hard currency obligations. Hungary, the GDR, and Romania also recorded a sizable growth in debt between 1971 and 1979. Czechoslovakia and Bulgaria have generally been more cautious in their borrowing.

[1] Excluding Albania and Yugoslavia.

In addition to estimating debt to the West, we have also computed each country's hard currency obligations to the International Investment Bank (IIB) of the Council for Mutual Economic Assistance (CEMA). The IIB has raised some $2.5 billion on Western financial markets for the USSR and Eastern Europe. The lack of data on hard currency lendings by the International Bank for Economic Cooperation (IBEC) prevents us from estimating borrowings from CEMA's other communitywide bank.

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Introduction

The USSR and its East European allies do not publish information on their financial position with Western governments and banks. Estimates of Soviet–East European indebtedness thus must rely on Western financial reporting which continues to be deficient in both scope and quality of coverage. The scarcity of data requires several—and in some areas—tenuous assumptions in calculating the size and structure of USSR–East European debt to the West.

The hard currency debt of these countries can be apportioned between that amount covered by Western government guarantees—officially supported debt—and that portion—commercial debt—that has not received such backing. We separately estimate each debt category, including that portion subject to double counting. In each case we start with a basic time series and make the necessary additions and subtractions and other adjustments to derive a debt structure. Since inadequacies in our data sources necessitate several assumptions in deriving these estimates, the totals presented for each country should be viewed as falling within a range of error.

This paper will first discuss our procedures for estimating the commercial debt and government-backed debt of the USSR and Eastern Europe. It will also describe some standard measures of debt burden derived from the available data. We will then examine separately each country's financial position. Finally, we will review information on the role of CEMA's international banks as hard currency lenders to Eastern Europe.

Estimating Soviet and East European Commercial Debt

Reporting by the Bank for International Settlements (BIS) on the assets and liabilities of the USSR and Eastern Europe with Western commercial banks serves as the basis for our estimates of commercial debt. The BIS data cover external assets stemming from (a) bank-to-bank credits, (b) bank participation in syndicated loans, (c) time deposits placed with Soviet–East European national banks, (d) trade drafts, drawn on foreign buyers, discounted by the banks, and (e) *a forfait* claims held by banks.[2] We adjust the BIS series to account for (a) Western bank positions not reported to the BIS before 1977, (b) Swiss, Japanese, Canadian, and US bank positions reported to the BIS but not broken out with respect to each of the borrowing countries, (c) supplier credits held in the West but not included in the BIS reporting, (d) nonguaranteed borrowing from outside the BIS area, and (e) reported bank lending supported by official credit guarantees. The methodology employed is outlined in table 1 and described in the following section.

BIS Reporting. BIS summary data for 1971-73 consisted of annual reports of the positions of Western commercial banks with the Soviet–East European group as a whole. The only complete country-by-country breakout for this period is reporting by the Bank of England on the external foreign currency liabilities and claims of banks in the United Kingdom. We allocated the BIS totals of each country in accordance with that country's share of UK bank claims and liabilities for the period 1971-73.

In 1974 the BIS initiated an expanded system of quarterly reports in which member bank positions are made explicit with respect to the USSR and each East European country. Initially, this coverage included the claims and liabilities of commercial banks in France, Belgium-Luxembourg, the Federal Republic of Germany (FRG), Italy, Sweden, the United Kingdom—and for the USSR only—banks in Canada and the United States. (FRG banks do not report their position

[2] *A forfait* or nonrecourse financing is a form of supplier's financing whereby the bank or other financial investor accepting bills or notes from an exporter for discount absorbs the risks of collecting payment from the importer. See discussion on p. 3.

Table 1

Methodology for Estimating Commercial Debt

Soviet and East European liabilities =
Commercial bank assets as reported to the BIS
Plus:
Western bank assets not reported to the BIS before 1977
Western bank assets estimated from the USSR–East European residual given in the quarterly BIS reports
Supplier credits held in the West but not included in reporting to the BIS
Borrowing outside the BIS reporting area
Less:
Government-supported credits included in member bank submissions to the BIS
For the USSR, Western bank assets with CEMA's international banks
Soviet and East European assets =
Commerical bank liabilities as reported to the BIS
Plus:
Austrian bank liabilities for 1971-76
Western bank liabilities estimated from the USSR–East European residual given in the quarterly BIS reports

with the GDR to the BIS.) By 1975, coverage was extended to banks in the Netherlands and foreign branches of US banks in the Caribbean and the Far East.

In 1977 explicit coverage for all countries began to include the positions of banks in Austria, Ireland, and Denmark, of Japanese banks with the USSR, Poland, and Romania, and of US domestic banks with Poland. The statistics for 1977 also included for the first some domestic currency claims of banks in France and the United Kingdom. By the end of 1978 explicit coverage for all countries encompassed banks in the United States and Canada.

Bank Positions Not Reported to the BIS Before 1977. The BIS prepared two reports for yearend 1977. One of these surveys covered the same banking positions as the 1974-76 quarterly reports while the second included for the first time the claims and liabilities of banks in Austria, Ireland, and Denmark with the USSR and Eastern Europe as well as some supplier credits which are held by UK and French banks and denominated in pounds and francs, respectively. The second report for December 1977 showed an increase of approximately 15 percent in East European liabilities over the first survey.

We have adjusted our 1971-76 series to make it as consistent as possible with the expanded surveys for 1977-78. Using data compiled by the Austrian National Bank we have added Austrian bank claims on and liabilities of the USSR and each of the East European countries to the BIS series for 1971-76. Since we lack data on the positions of Irish and Danish banks as well as on the amount of domestic currency trade claims held by French and British banks, we increased our estimates for 1971-76 by the percentage difference between (a) the totals of the first survey for yearend 1977 plus 1977 Austrian bank positions and (b) the totals of the second BIS survey.

Swiss, Dutch, Japanese, Canadian, and US Bank Positions in the BIS Residual. In its quarterly reports, the BIS has reported a residual category for the Soviet–East European group. This category encompasses Western banks that have not broken out their position by individual country. For all years covered by the quarterly reports, the position of Swiss banks has been reported in the residual. The residual also included Dutch banks until 1975 and—for the East European countries—Canadian banks until 1978. The position of Japanese banks to all countries was part of the residual until 1977 when explicit coverage for the USSR, Poland, and Romania began to include Japanese banks. The position of banks in the United States was broken out by country only for the Soviet Union until 1977 when the BIS reports started to report US domestic bank assets and liabilities with Poland as well. By 1978, coverage for all countries included US domestic banks.

Beginning in December 1976, the BIS started to report the maturity structure of member bank lending to individual countries. These reports survey banks in the same Western countries as those included in the quarterly reports. The maturity structure reports, however, do not have a residual category for lending, which means that all reporting banks provide an explicit country-by-country breakout. Since the total number of banks surveyed in the maturity structure reports is somewhat smaller than the number reporting in the quarterly position reports, we could not use the maturity structure statistics directly. We assumed, however, that each country's share of total Soviet–East European liabilities (including the residual) reported in the quarterly survey equals its reported share of total Soviet–East European liabilities in the maturity survey. To determine each country's share of the residual, we then subtracted its explicitly reported liabilities in the quarterly report from its estimated share of total Soviet–East European liabilities. For 1974-75, we allocated the residual in proportion to the countries' shares in the explicitly reported totals.

Supplier Credit Financing. A considerable volume of supplier credit extended by Western firms is neither reported as commercial bank lending to the USSR and Eastern Europe nor included in statistics on Western government–backed lending. These credits include both claims held by exporters at their own risk and trade paper discounted in secondary financial markets.[3]

Supplier credits may be extended by a trade draft, or the buyer may issue a promissory note to the Western seller. To generate cash and to avoid the risk of interest rate and exchange rate fluctuations, exporters generally sell the paper at a discount in secondary financial markets. Some countries such as France and the United Kingdom provide extensive government-backed schemes for refinancing medium-term supplier credit. In some other countries, government discounting facilities may be inadequate or expensive or they may require the exporter to bear some of the risk of nonpayment by the importer. Under these circumstances, recipients of promissory notes often make use of the *a forfait* market.

[3] This discussion of supplier credit financing is drawn from Andrew Large. "The Role of Eurocurrencies in East-West Trade," *Money and Finance in East and West;* and C. T. Saunders (editor), *The Vienna Institute for Comparative Economic Studies: Workshop Paper* Vol. 4 (Springer Verlar: New York, 1978).

Forfaiting is a method by which a series of promissory notes or trade drafts, usually maturing over a period of five years, is discounted. The *a forfait* market permits an exporter who is the recipient of a promissory note to sell the paper to a bank or other financial institution with the provision that there can be no recourse to the exporter in the event of default by the importer. The sales are usually made at a fixed discount rate. Because of their relatively high yield to maturity the discounted notes often enter the investment portfolios of nonbank financial institutions, private investors, or commercial bank trust accounts.

With the exception of Hungary, all Soviet–East European countries use promissory note financing to some degree. A considerable volume of Soviet, Polish, GDR, Czechoslovak, and Romanian paper has been discounted in the *a forfait* market. There is little trading in Bulgarian notes since these are normally refinanced through bank-to-bank credits from Western banks to the Bulgarian Foreign Trade Bank. The amount of new East European paper entering the market grew during the early and mid-1970s but has declined since 1976. The dropoff reflects (a) the availability of lower cost direct financing from highly liquid Euromarket banks and (b) the concern felt by East European foreign trade banks about the existence of large secondary markets in their paper and the impact that this might have on their overall credit rating.

Estimates vary for the total value of Soviet–East European supplier credit outstanding in the West. A portion of these credits is held by Western banks and is reported to the BIS as claims on the respective Soviet–East European countries. Our estimates for supplier credit financing refer only to the remaining portion, which we assume to be held by Western exporters, nonbank financial institutions, or private investors (see table 2).

Other Borrowing. In addition to the use of supplier credits, the East European countries have obtained loans from sources that neither report to the BIS nor are included in summary reporting of government-supported credits. Middle Eastern financial centers rank among the most important of these sources. Bulgaria, Romania, and Poland have received project

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Table 2

Million US $

USSR and Eastern Europe: Promissory Notes Placed in the West [1]

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Bulgaria	25	25	25	25	50	125	75	50	50	50
Czechoslovakia	75	75	100	125	175	200	175	200	175	175
GDR	75	100	100	125	150	175	175	175	150	170
Poland	50	75	125	250	375	475	350	325	225	225
Romania	100	100	125	125	150	150	100	75	75	115
USSR	100	100	100	200	500	500	500	500	400	400

[1] Notes neither held by Western banks nor covered by official credit guarantees.

development loans from Iran. On a number of occasions since 1974, the Kuwait Investment Company has managed bond and private placement issues for Hungary, Poland, and Romania; Poland and Hungary have also raised loans from the United Arab Emirates.

Besides the Middle Eastern placements, the East European countries have floated bond and note issues in the international bond market. Since Eurobond issues and notes are sold primarily to government and private institutions and individuals rather than to commercial banks, we assume that little of this borrowing is covered in the BIS surveys (see table 3).

Other possible lenders not covered by current BIS reporting include Finland and Spain as well as the Singapore branches of European and Japanese banks. These institutions probably hold some claims on the East European countries, but the amounts involved almost certainly are small.

Double Counting. An unresolved problem in interpreting BIS statistics is the possibility that some portion of assets reported by member banks to the BIS are backed by government credit guarantees. The BIS itself seems to be in the dark on this question because it has provided conflicting information to different researchers. Apparently, reporting procedures vary by country, and various official credit guarantee programs impact differently on member bank accounting practices.

Table 3

Million US $

Eastern Europe: International Bond and Note Placements

	1972	1973	1974	1975	1976	1977	1978	1979
Poland	0	0	0	0	47	81	30	48
Hungary	50	0	40	101	25	175	0	0
Romania	0	0	0	100	0	0	0	0

We assume that officially supported credits have not constituted a sizable share of Western bank lending to the USSR and Eastern Europe. There are indications that a portion of officially supported credits held by French and Japanese banks are reported to the BIS, as are all officially supported nonsterling credits held by British banks and all officially guaranteed US credits. To date, however, US banks have not requested official credit guarantees on their loans to the USSR, and the amount of guaranteed US lending to Poland and Romania is small. The amount of UK loans not denominated in pounds sterling reportedly is minimal.

From available data on officially backed export credits, we have attempted to estimate that portion of French, Japanese, Belgian, Swiss, Dutch, and Swedish bank lending that also is counted under our estimates of officially supported debt. Since we lack authoritative information on the amount of double counting, our estimates are subject to a wide range of error. For example, in 1979 we allowed for $900 million in double counting in estimating the USSR's debt; our feeling is that the actual total probably ranged between $700 million and $1.5 billion.

IBEC and IIB Borrowing Reported in Data for the USSR. Most Western banks include their positions vis-a-vis CEMA's International Investment Bank and International Bank for Economic Cooperation in their Soviet position in reporting to the BIS. Eastern Europe, however, has been the recipient of a major share of the borrowings by these two banks and presumably bears the debt service costs. Given the sizable borrowings by the CEMA banks in recent years, treatment of their borrowing has a major impact on the calculation of Soviet–East European debt to the West.

Using published IBEC and IIB balance sheets, we attempt to estimate the portion of Western bank assets reported with respect to the USSR that actually represents lending to the two international banks. We subtract these amounts from reported Western bank assets with the USSR to derive a Soviet commercial debt position excluding contingent liabilities of the IBEC and IIB. (Appendix B describes the IIB and IBEC balance sheets and our estimative methodology.)

Other assumptions regarding Soviet liability from IBEC and IIB borrowing are possible. By invoking the so-called umbrella theory one could argue that the USSR would assume responsibility for the solvency of the banks and, as a result, Western bank liabilities of the IBEC and the IIB properly belong in the Soviet position. One could impute a legal responsibility. The USSR holds a 40-percent share in the two banks and presumably would be legally accountable for 40 percent of their liabilities.

We prefer to treat the banks separately. We estimate that the USSR is a nominal borrower from the CEMA banks; in all likelihood, IIB and IBEC have reloaned a major share of their hard currency borrowings to those East European countries that could not borrow at rates as favorable as those the CEMA banks have been able to obtain. CEMA bank liabilities to the West are matched, in effect, by CEMA bank assets with non-Soviet CEMA members, and the hard currency indebtedness of these banks should be allocated to those non-Soviet borrowers. We discuss below the available information on East European hard currency indebtedness to the CEMA banks.

Structure of Commercial Debt. Our estimates for the structure of USSR–East European commercial debt derive principally from the BIS survey of the maturity structure of Western bank assets. The total number of banks surveyed in these semiannual maturity structure reports is slightly smaller than the number covered in the quarterly BIS reports on bank claims and liabilities. Thus, to estimate the structure of USSR–East European debt, we apply the percentage distribution of debt by term obtained from the June 1979 maturity breakout to the BIS quarterly report statistics. Using this imputed term structure as a base, we then adjust for residual liabilities, promissory note financing, other borrowing, and double counting to derive the structure of commercial debt. For Swiss bank claims and double counting, we adopt the same maturity distribution as that of the BIS survey. We assume a five-year maturity for our estimates of promissory note drawings, except for Poland since 1977 where the term of *forfaited* notes has shortened to three years. For other borrowing we assume that bonds and project loans have maturities of over two years while other liabilities are less than one year.

In interpreting the maturity structure of commercial debt, one must realize that debt due in 1980 includes not only repayments on medium-term credits but also a sizable amount of short-term time deposits and trade drafts. Since the latter credits are normally rolled over on a continuing basis, the maturity distribution may give an exaggerated view of debt burden. The amount of debt due in 1981 and after 1981 provides a somewhat clearer indication of whether a country's repayment obligations are bunched or stretched out.

Estimating Soviet and East European Debt Backed by Western Guarantees

Officially Backed Export Credits. Export credits backed by Western government guarantees account for the lion's share of officially supported lending to the USSR and Eastern Europe. Our estimates for this portion of Soviet–East European debt are based on an analysis of unpublished data. From various statistical sources, we derived for the period 1970-78 new commitments of guaranteed credits, drawings on these credits, outstanding undrawn commitments, outstanding debt, debt service (repayments of principal and interest), and total exposure. Since we must make a number of simplifying assumptions in computing these totals, we ascribe a 10-percent range of error to our estimates. Debt estimates for yearend 1979 are largely extrapolations of past trends.

The information on commitments apparently refers in part to offers of Western credit for specific projects. The estimate of country exposure—as measured by total commitments reported by Western governments—is inflated to the extent that Western commitments of future credits have not been matched by orders for Western equipment, pipe, or other products.

Official Federal Republic of Germany Credits to Eastern Europe. In addition to guaranteed export financing, the FRG Government has provided government-to-government loans to several East European countries. In 1976 the Deutsche Bundesbank published the total amount outstanding on these credits to Eastern Europe at yearend 1975.[4] The amounts outstanding in other years can be computed from the FRG's balance-of-payments statistics that show both annual repayments and drawings. Official FRG statistics do not break out these totals by individual country; however, drawings and repayments by recipient can be inferred from press reports.

Bulgaria apparently borrowed 335 million deutsche marks (DM) in the middle and late 1960s to refinance a sizable debt to FRG suppliers. It repaid 137 million DM in 1971-72 and probably an additional 80 million DM in 1977. Romania borrowed 100 million DM in 1970 and 200 million DM in 1973. Of the 300 million DM borrowed, an estimated 150 million DM have been repaid. Finally, Poland concluded an agreement in late 1975 to borrow 1 billion DM to help finance its sizable amount of outstanding FRG supplier credit. FRG balance-of-payments statistics show official credit drawings of 340 million DM in 1975 and 330 million DM in 1976 and 1977, presumably by Poland.

German Democratic Republic Debt to the Federal Republic of Germany on the Swing Account. Our estimates of government-guaranteed export credits reflect FRG credits to the GDR insured and financed by the official organizations GEFI (Gesellschaft zur Finazierung von Industrieannagen mbH) and Treuarbeit AG. These data, however, do not include GDR liabilities under the interest-free swing account. The ceiling on this credit facility stood at 850 million DM at yearend 1978. Statistics published by the FRG Government on trade with the GDR, considered by the FRG as inter-German trade, provide the actual GDR position within the permitted maximum amount of credit.

Polish Debt to the United States Under the PL-480 Program. Poland's debt to the United States under the PL-480 program represents the unpaid balance on a very long-term, interest-free line of credit totaling \$520 million used in 1957-64 to finance imports of US grain and other agricultural products. By agreement, a portion of the zlotys acquired by the US Treasury in payment for the purchases have been used for paying expenses of the US Embassy in Warsaw, for paying social security pensions of US retirees who have returned to Poland, and for financing US-supported projects in Poland. Warsaw must repurchase the remainder of the zloty balance held by the US Treasury with dollars. The amount outstanding—approximately \$130 million at yearend 1979—is included in Polish liabilities in hard currency because even the portion not repaid in US dollars will largely replace dollars that the United States would have otherwise spent in Poland.

Romania's Use of IMF and World Bank Credit Facilities. Romania is the only East European country belonging to the International Monetary Fund and World Bank. Since joining the IMF in 1972, Bucharest has made considerable use of its credit facilities. Romania drew its gold tranche of 47.5 million special drawing rights (SDR) and first credit tranche of 47.5

[4] *Monthly Report of the Deutsche Bundesbank*, Vol. 28, No. 7, July 1976, p. 11.

Table 4

Million US $

USSR and Eastern Europe: Gross and Net Hard Currency Debt to the West

	1971	1972	1973	1974	1975	1976	1977	1978	1979 [1]
Total									
Gross	8,357	11,047	14,965	22,317	36,401	47,661	56,577	68,947	77,130
Net	5,987	7,518	10,570	16,175	28,898	38,869	48,244	58,303	64,660
Bulgaria									
Gross	743	1,009	1,020	1,703	2,640	3,198	3,707	4,263	4,500
Net	723	909	997	1,360	2,257	2,756	3,169	3,710	3,730
Czechoslovakia									
Gross	485	630	757	1,048	1,132	1,862	2,616	3,206	4,020
Net	160	176	273	640	827	1,434	2,121	2,513	3,070
GDR									
Gross	1,408	1,554	2,136	3,136	5,188	5,856	7,145	8,894	10,140
Net	1,205	1,229	1,876	2,592	3,548	5,047	6,159	7,548	8,440
Hungary									
Gross	1,071	1,392	1,442	2,129	3,135	4,049	5,655	7,473	8,020
Net	848	1,055	1,096	1,537	2,195	2,852	4,491	6,532	7,320
Poland									
Gross	1,138	1,564	2,796	4,643	8,014	11,483	13,967	17,844	21,100
Net	764	1,150	2,213	4,120	7,381	10,680	13,532	16,972	20,000
Romania									
Gross	1,227	1,249	1,611	2,693	2,924	2,903	3,605	5,221	6,950
Net	1,227	1,204	1,495	2,483	2,449	2,528	3,388	4,992	6,700
USSR									
Gross	1,807	2,409	3,749	5,176	10,578	14,853	15,728	17,227	17,200
Net	582	555	1,166	1,654	7,451	10,115	11,230	11,217	10,200
CEMA Banks	**478**	**1,240**	**1,454**	**1,789**	**2,790**	**3,457**	**4,154**	**4,819**	**5,200**

[1] Preliminary.

million SDR in 1973. Bucharest added to its obligations in 1975 when it acquired 40 million SDR under a standby credit facility. Heaviest use of IMF facilities came in 1976 when the Romanians drew 150 million SDR consisting of the remaining two credit tranches under its original quota of 190 million SDR plus an additional 55 million SDR from the standby credit facility. Romania drew 72.5 million SDR in 1977, 39.1 million SDR in 1978, and 41.3 million SDR in 1979. Bucharest repaid 145 million SDR in 1977-79 leaving repayment obligations at yearend 1979 of 293 million SDR, equivalent to $385 million.

Romania has also received long-term project development loans from the World Bank. Most of the loans have 15- to 25-year maturities with grace periods of up to five years and carry interest rates of 7.25 to 8.50 percent. As of 30 June 1979, World Bank commitments to Romania totaled $1,177 million for 22 projects with actual drawings equal to $563 million.

The Results: Soviet and East European Hard Currency Debt

Based on the procedures outlined above, we estimate that Soviet–East European gross hard currency debt to the West grew from $8.4 billion at yearend 1971 to 77.1 billion at the end of 1979 (see table 4). During the

Table 5

USSR and Eastern Europe: Measures of Debt Burden

	Debt Service as a Share of Total Revenues (Percent)		Gross Debt as a Share of Total Revenues (Percent)		Debt Service as a Share of Drawings (Percent)		Net Transfer (Million US $)	
	1972	1979	1972	1979	1972	1979	1972	1979
Bulgaria	36	38	198	195	46	136	212	−233
Czechoslovakia	10	22	46	112	56	65	106	429
GDR	18	54	95	223	85	94	53	171
Hungary	14	37	140	239	37	131	243	−293
Poland	15	92	87	333	44	85	352	1,056
Romania	27	22	99	130	125	51	−68	1,130
USSR	14	18	68	64	52	168	432	−1,927

same period, hard currency holdings in the West rose from $2.4 billion to $12.5 billion, yielding an estimated net debt of $64.6 billion at yearend 1979. The growth of debt was particularly fast in 1974-75 when gross liabilities rose at an average of more than 50 percent annually. During the other years of this period, the growth rate was less than 35 percent per year.

Most of the increase in debt to the West resulted from commercial borrowing, principally from Western banks. In 1971 commercial liabilities totaled $4.4 billion, or roughly 50 percent of gross debt. By the end of last year these borrowings had grown to $60.2 billion, or nearly 80 percent of gross debt. Official and officially guaranteed credits totaled $16 billion at yearend 1979 as opposed to $3.9 billion at yearend 1971, but had fallen as a share of total debt from just over 45 percent in 1971 to about 20 percent in 1979. Romania's IMF special drawing rights and World Bank debt totaled $0.9 billion at yearend 1979, 1 percent of Soviet–East European debt.

Debt size reveals little about a country's ability to meet its financial obligations and to sustain needed imports. To provide perspective on each country's debt, we have calculated several indicators of hard currency debt burden (see table 5).

The debt service ratio is the customary measure of solvency. For each East European country we have computed ratios of hard currency computed debt service to earnings from merchandise exports to all non-Communist countries. Soviet earnings consist of hard currency revenue from merchandise exports, gold sales, arms deliveries transportation, and tourism. Service payments make up estimated interest on total outstanding debt plus estimated repayments of principal on government-supported debt and estimated repayments on medium- and long-term commercial debt.

To calculate annual interest payments on commercial borrowings, we apply the average annual London Interbank Offer Rate (LIBOR) against average debt for the year. We applied fixed interest rates in calculating interest payments on officially supported debt; a rate of 6.5 percent was assumed for credits drawn in 1971-75, and a rate of 7.2 percent was used for credits drawn in 1976-78. We estimated repayments on medium-term commercial credits largely from the BIS maturity surveys. Repayments on official credits were estimated using average maturities of between five and eight and a half years.

The debt service ratio, however, does not address the question of future debt burden. Debt-to-export ratios are often used as a benchmark for the burden of outstanding debt over time. We have estimated debt-to-export ratios for the period 1972-79, using earnings from merchandise exports to non-Communist countries as the base for Eastern Europe and total hard currency revenues for the USSR.

Two additional indicators reflect the impact of new borrowings and debt service payments upon a country's import capacity. The net transfer measure—new drawings less repayments of principal and interest—reflects the increase (or reduction) in a country's ability to import goods and services as a result of debt financing. We also calculated that portion of new drawings used to service existing debt to measure the extent to which a country is rolling over its hard currency debt. These two measures move together; a large positive net transfer implies borrowing in excess of roll-over requirements, while a negative net transfer implies borrowing below the amounts required to meet debt service obligations.

Individual Country Positions. The following sections briefly review each country's financial position as reflected in our estimates of (a) debt to the West and (b) debt burden. Appendix A contains complete tables summarizing the estimates of debt, debt burden, and maturity structure for each country.

USSR. We estimate yearend 1979 gross Soviet debt at $17.2 billion and net debt at $10.2 billion. In 1971-74 Soviet debt backed by official credit guarantees grew steadily to $2.4 billion; Moscow's commercial financial transactions showed a surplus, yielding a net debt of $1.7 billion at the end of 1974. Beginning in 1975, however, the USSR made extensive use of Western commercial credit facilities. Indebtedness on this account grew by $7.5 billion in 1975-78, but declined by $800 million last year. Concurrently, the Soviet Union increased its use of officially supported credits as outstanding government-supported debt rose by $5.3 billion in 1975-79 to $7.7 billion. Most of the growth in total Soviet debt occurred in 1975-76. A slowing of import growth and a substantial upswing in earnings from energy exports, arms shipments, and gold sales enabled the Soviets to hold down new borrowing in 1977-79. Net debt dropped sharply in 1979 as Moscow built its deposits in Western banks to a record $7.0 billion.

The USSR's heavy borrowing in 1975-76 produced a net resource transfer of nearly $8 billion, but carried with it the cost of rising debt service. Between 1974 and 1979, repayments on principal and interest rose from 12 to 18 percent of Soviet hard currency earnings. The slowdown in new borrowings over the past three years—coupled with higher commercial interest rates and the USSR's decision to prepay some of its Eurodollar syndications—resulted in a net outflow of financial resources reaching $1.9 billion in 1979. Moscow's financial conservatism and the sizable growth of Soviet hard currency revenues reduced the Soviet debt-to-export ratio from a high of 108 percent in 1976 to 64 percent in 1979.

Poland. Polish gross debt grew from $1.1 billion at yearend 1971 to $21.1 billion ($20.0 billion net) at the end of 1979. Polish borrowing grew at a particularly high rate between 1972 and 1976, when it rose from $1.6 billion to $11.5 billion, or by an average annual rate of more than 60 percent. Although Warsaw's obligations grew by an additional $9.6 billion in 1977-79, Poland at least slowed the rate of increase in its liabilities to less than 25 percent a year, less than the average for the other East European countries.

Nearly 80 percent of the growth in Poland's debt between 1971 and 1979 resulted from commercial borrowings. Warsaw has been the leader among the East Europeans in the use of syndicated credits, raising more than $2.7 billion from this type of borrowing.

Official and officially backed credits make up nearly one-fourth of Warsaw's gross debt—the largest share of any East European country. Poland's $5.1 billion in official debt at yearend 1979 consisted of $4.4 billion in government-backed export credits (including obligations to the United States under the CCC program), $0.7 billion in the FRG government-to-government credits, and PL-480 obligations to the United States.

The measures of debt burden graphically delineate Poland's mounting difficulties in managing its debt. In 1971 Poland enjoyed low debt to export and debt service ratios in comparison with the other East European countries. The heavy borrowing of the mid-1970s yielded a sizable net transfer of resources, but the rapid growth of debt in relation to the increase in non-Communist exports presaged worsening problems in servicing debt. By 1979, repayment and interest obligations equaled 92 percent of non-Communist exports—by far the highest ratio among the USSR and countries of Eastern Europe. Although new credit drawings remained sizable, Warsaw's ability to effect a positive resource transfer deteriorated in 1976-79. In effect, 85 percent of every dollar borrowed went to servicing debt in 1979—and not to acquiring real resources—compared with roughly 35 percent in 1973-76.

The sheer magnitude of the obligations scheduled to mature over the next several years will strain Warsaw's finances. The Poles had some $4.8 billion in undrawn credit commitments from Western governments at yearend 1978. Of course, almost all of these commitments are tied credits and thus of little help in servicing debt. However, these available credits—particularly if Warsaw can arrange to use them for purchasing its most necessary Western imports—can help the Poles as they struggle to sustain needed imports and service outstanding debt over the next several years.

German Democratic Republic. At yearend 1979 the GDRs gross debt totaled $10.1 billion. The GDR held $1.7 billion in Western banks, leaving a net debt of $8.4 billion. Roughly three-fourths of GDR debt stems from borrowing from Western commercial banks, much of which has been in the form of medium-term credits. Syndicated loans to the GDR between 1972 and 1979 totaled $2.5 billion. While government-guaranteed export credits account for less than 10 percent of GDR debt, the GDR increased its use of these credits in 1977-79, and the amount of outstanding commitments nearly tripled between 1975 and 1978. Having accumulated more than $2 billion in undrawn commitments, the GDR may be planning to step up its use of this financing source in the near future.

The GDR has increased its hard currency debt at a much higher rate than exports to non-Communist countries since 1972, pushing the debt to export ratio from 95 percent in 1972 to 223 percent in 1979. The GDR debt service ratio has jumped sharply since 1976, reaching 54 percent last year. Mounting debt service has cut the GDR's net resource transfer from a high of $1.7 billion in 1975 to only $171 million in 1979.

Hungary. Budapest's gross debt was $8.0 billion at yearend 1979; net debt totaled $7.3 billion. Almost all of these liabilities are owed to Western commercial banks. Approximately $1.9 billion of the $6.5 billion raised by the Hungarians from Western banks between 1971 and 1979 were syndicated credits. Budapest has also tapped the international bond market, raising $400 million since 1971 through Eurobond issues and note placements with Middle Eastern lenders. The Hungarians apparently have avoided the use of medium-term supplier credits and made only minimal drawings on government-backed credits.

Despite a sizable debt to export ratio, Budapest before 1978 had succeeded in holding its debt service ratio below 30 percent. Because of heavy reliance on Eurocurrency financing, the runup of Euromarket interest rates boosted Hungary's debt service costs sharply in the past two years bringing the debt service ratio to 37 percent. Nevertheless, Hungary does not seem to face any immediate problems in managing its debt, as repayments on its medium-term borrowings from Western banks appear to be well stretched out.

Czechoslovakia. Prague has the lowest level of debt ($4.0 billion gross, $3.1 billion net) among the USSR and countries of Eastern Europe. countries. Between 1971 and 1975—when the others were experiencing sizable increases in their hard currency indebtedness—the Czechoslovaks held to a cautious borrowing policy and had accumulated a gross debt of only $1.1 billion at yearend 1975. Prague's financial conservatism was particularly evident with respect to commercial bank borrowing. Before 1976, the Czechoslovaks were either net creditors of or virtually in balance with Western banks. Czechoslovakia relied primarily on supplier credits and Western government–guaranteed loans to finance its trade. Since 1975, the Czechoslovaks have been much more active borrowers, increasing their total outstanding liabilities by $2.9 billion. In contrast with Prague's earlier practice, a major share of recent borrowing has come from Western banks.

Thanks to its financial conservatism, Prague enjoys a low debt service ratio. Although the upswing in borrowing has boosted Prague's debt-to-export ratio from 43 percent in 1973 to 112 percent in 1979, the Czechoslovak position seems healthy. The debt service burden will increase in the future as repayments come due on the $1.1 billion in syndicated credits raised by Prague between 1975 and 1979. But—as the maturity structure data demonstrate—the greater portion of Czechoslovak bank liabilities are short term, and repayments on medium-term borrowing will not be sizable in the near future.

Bulgaria. We estimate Bulgaria's yearend 1978 gross debt at $4.5 billion and net debt at $3.7 billion. Up to 1974, Bulgaria managed to hold down the growth of its debt, which had risen at a high rate in the mid-1960s. In fact, in 1971-72 Sofia was able to repay nearly half of the 335 million DM of FRG official credits borrowed in the middle and late 1960s to cover payments to FRG suppliers. Beginning in 1974, Bulgarian debt again began to rise at a high rate. Yet, after growing to $3.2 billion in 1974-78, gross debt increased by only $200 million last year, and net debt remained constant.

Throughout the period covered by our estimates Bulgaria has shouldered comparatively high debt service and debt-to-export ratios. These ratios reflect to a large extent Bulgaria's low export earnings since the actual value of debt service costs is not high. While the country's external financial position—as measured by these ratios—worsened somewhat between 1972 and 1978, Sofia may take some comfort from the fact that its allies generally have experienced greater deterioration. In fact, the Bulgarians have succeeded in boosting hard currency exports sufficiently to cut their debt-to-export ratio from 302 percent in 1976 to 195 percent in 1979, and they reduced the debt service ratio from 46 percent in 1978 to 38 percent last year despite higher Euromarket interest rates.

Romania. Romania's gross debt for yearend 1979 is estimated at $7.0 billion and its net debt at $6.7 billion. Gross liabilities to the West grew steadily from $1.2 billion in 1971 to $2.9 billion in 1975. Debt was held constant in 1976 but climbed sharply in 1977-79. Romania's borrowing from Western banks—particularly before 1977—was comparatively small. In 1977-79, however, Bucharest tapped Western commercial banks for $2.9 billion; about half of this borrowing came from the longer term end of the market as Romania raised $1.5 billion in syndications over the three-year period. Through 1975, government-backed export credits accounted for a significant share of liabilities, but Bucharest's reliance on this financing has subsequently declined. Outstanding liabilities to the IMF ($385 million) and the World Bank ($563 million) now account for a greater portion of Romanian debt than Western officially backed credits ($905 million).

Our estimates indicate that Romania improved its financial position appreciably between 1972 and 1976. Bucharest cut its debt service ratio from 27 to 18 percent by taking advantage of (a) the IMF's concessionary balance-of-payments financing, (b) long-term low-cost FRG official credits and World Bank development loans, and (c) Western government–backed credits. Romania also cut its debt-to-export ratio from 99 to 87 percent by increasing hard currency exports faster than debt accumulation. The heavy bank borrowings of the past three years have produced an increase in debt burden, but for now Romania appears to have a reasonably solid financial position.

Assessing the Accuracy of the Estimates

Because of the improving quality of Western statistics on Soviet–East European financial activities, we believe that our estimates are reasonably accurate, particularly for more recent years. We acknowledge that the lack of summary data on a few significant debt components (for example, promissory notes and other commercial borrowings not reported to the BIS) and the need to make assumptions in interpreting some of the available reporting introduce the possibility of error. For this reason, our estimates are more properly viewed as having a range of error of roughly 10 percent. In other words, we estimate the USSR's gross hard currency debt at $17 billion but believe that the true value probably falls between $15 billion and $19 billion.

In interpreting and comparing these estimates with those of other researchers, one should keep a few caveats in mind. Because of (a) the gradual expansion of the BIS reporting area, (b) more complete country-by-country breakouts, and (c) the widening scope of financial transactions captured by BIS statistics, our estimates of banking positions are not entirely consistent on a year-to-year basis. For example, the source from which we adopted the estimates of pre-1974 commercial banking claims and liabilities suggests that these totals may overstate Czechoslovak assets and understate Romanian liabilities.[5]

The lack of data on supplier credit financing makes the estimates of East European indebtedness on this account highly tentative. In comparison with the estimates of other researchers, our totals tend to be low because we believe a sizable share of discounted notes appears in BIS reporting. If we are overly conservative in this judgment, our estimates for Czechoslovak, Romanian, and Polish debt may be understated—particularly before 1976.

East European Hard Currency Borrowing From the IIB and IBEC

CEMA's two international banks—the IIB and IBEC—have not reported detailed information on how their hard currency borrowings have been distributed among the CEMA member states. Nevertheless, in the case of the IIB, the bank has published data in its annual reports that permit estimation of each country's obligations to the bank.

IIB. The IIB provides medium- and long-term credits to its member countries for projects of joint interest to the CEMA community. These credits may be granted either in hard currency or in CEMA's transferable rubles. Using both published and unpublished information we have estimated Eastern Europe's hard currency exposure to the IIB (see table 6). Net exposure equals gross liabilities less the position of each country's membership quota paid in gold and convertible currencies. We have not included these obligations in our estimates of hard currency debt given in table 4 and appendix A because they are indirect obligations of the individual countries to the West.

Table 6 — Million US $

Eastern Europe: Net Hard Currency Exposure to the IIB

	1972	1973	1974	1975	1976	1977	1978
Bulgaria							
Borrowings	1	6	16	85	196	326	351
Capital contribution	6	12	12	12	12	12	13
Net exposure	−5	−6	4	73	184	314	338
Czechoslovakia							
Borrowings	6	13	26	95	202	331	271
Capital contribution	7	16	18	18	18	18	20
Net exposure	−1	−3	8	77	184	313	251
GDR							
Borrowings	3	6	12	83	193	324	374
Capital contribution	10	22	25	25	25	25	27
Net exposure	−7	−16	−13	58	168	299	347
Hungary							
Borrowings	5	11	21	89	198	327	364
Capital contribution	5	10	12	12	12	12	13
Net exposure	0	1	9	7	186	315	351
Poland							
Borrowings	3	6	17	87	196	327	496
Capital contribution	7	15	17	17	17	17	19
Net exposure	−4	−9	0	70	179	310	477
Romania							
Borrowings	6	13	26	63	121	192	193
Capital contribution	3	6	7	7	7	7	8
Net exposure	3	7	19	56	114	185	185

[5] Brainard, Lawrence J., "Criteria for Financing East-West Trade," *Tariff, Legal, and Credit Constraints on East-West Commercial Relations*, edited by John Hardt (Ottawa, Canada: Institute of Soviet and East European Studies, Carlton University) pp. 10-11.

Table 7

Million US $

Hard Currency Lending by IBEC

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Total hard currency lending	**741**	**698**	**1,733**	**1,990**	**2,359**	**3,153**	**3,386**	**3,534**	**3,714**
Time deposits placed in banks	681	569	1,392	1,532	1,772	2,426	2,744	2,856	2,966
Credits extended	60	129	341	458	587	727	642	678	748

Much of this indebtedness resulted from construction of the Orenburg gas pipeline—the premier project funded by the IIB. In 1975-78 the bank raised $2.5 billion in five consortium loans, ostensibly to cover the hard currency costs of pipe and equipment for building the pipeline from the Soviet natural gasfields at Orenburg to the USSR-Czechoslovak border. In return for long-term Soviet natural gas deliveries, the East European countries agreed to finance the hard currency costs, receiving the necessary loans from the IIB.

In recent months the IIB has prepaid and refinanced a major portion of its borrowing in 1975-77 at new extended maturities and lower interest spreads than those of the original loans. This maneuver is almost certainly intended to stretch out Eastern Europe's repayment obligations and lower interest costs on outstanding debt rather than to finance new projects.

IBEC. This bank extends two types of credits—settlement and term—to help member countries finance their trade. Settlement credits are revolving credits issued to cover temporary earnings shortfalls. Term credits, on the other hand, carry fixed maturities of up to three years and are used to finance more fundamental trade disequilibriums.

IBEC's hard currency lending has risen steadily during the 1970s from $0.7 billion in 1971 to $3.7 billion in 1978 (see table 7). Although IBEC has taken shares in consortium loans for several developing countries and holds some cash on deposit in Western banks, the bulk of its hard currency claims undoubtedly represent lending to CEMA members. Roughly 80 percent of these funds are time deposits that probably carry maturities of less than one year; the remainder are subsumed under "credits provided" on IBEC's balance and probably carry maturities of one to three years.

The growth of IBEC's hard currency lending has closely followed the rise in overall Soviet–East European indebtedness to the West. Unlike the IIB, IBEC has not released any information on the distribution of its credits by countries. Undoubtedly, a given country's level of borrowing may fluctuate widely over time since much of IBEC's hard currency lending appears to be short-term deposit placements used to cover a member's temporary payments deficits. Nevertheless, IBEC's borrowing pattern on Western markets suggests some possibilities about the exposure of individual countries to the bank.

Since Western bankers apparently view the USSR as the guarantor of IBEC solvency, the bank has probably been able to raise funds on more favorable terms than CEMA's more financially strapped members. In other words, IBEC may be a source of concessionary hard currency balance-of-payments financing for Eastern Europe. If this is true, one might conclude that Bulgaria and more recently Poland have made recourse to the bank's "good offices." Indeed, a recent article in a Soviet financial journal stresses that IBEC credits have played an important role in helping Poland manage its balance of payments. This suggests that Poland has accumulated a sizable hard currency debt to IBEC.[6]

[6] R. Krulikovski, "Kreditnyy mekhanizm MBES na sluzhbe integratsii," *Den'gi i Kredit*, October 1979, pp. 25-27.

Czechoslovakia, because of its generally healthy financial position, and Romania, because of its often maverick stance toward CEMA institutions and its access to IMF facilities, have probably made less use of IBEC hard currency credits. The GDR and Hungary would fall somewhere in between, but apparently neither has yet encountered severe problems in meeting financial needs from its own resources.

The USSR would seem to derive less advantage from using IBEC as a borrowing front—except possibly as a vehicle to circumvent Western legal limits on bank exposure to a single borrower at a time of heavy borrowing by the Soviet Foreign Trade Bank (VTB). In this connection, IBEC's heaviest borrowing—more than 60 percent of its debt accumulation since 1971—occurred in 1972 and 1975. In these years the USSR ran large current account deficits and needed sizable short-term credits, primarily to finance unexpectedly large grain imports.

An open question is what—if any—role IBEC's convertible currency operations play in intra-CEMA hard currency trade. This trade apparently involves mainly the barter of above-plan quantities of so-called hard goods—for example, commodities that the partners could otherwise market for hard currency—although some transactions may involve payment in hard currency. Given Eastern Europe's mounting need for Soviet oil and raw materials as well as the growing cost to the USSR of providing such potential hard currency exports in soft-currency trade, the volume of intra-CEMA hard goods trade has almost certainly been increasing in recent years. The total amount of outstanding IBEC credit—in both transferable rubles and hard currency—has been rising in step with Eastern Europe's accumulating trade deficits with the USSR since 1974. Because the amount of hard currency credits in total IBEC lending has been rising, some portion of the growing volume of intra-CEMA hard goods trade may be financed through IBEC.

Although the CEMA countries probably strive to keep their hard goods trade in balance, imbalances evidently occur. Only Hungary publishes trade statistics that give an indication of intra-CEMA hard currency trade; according to these data, Budapest has run surpluses in recent years. Although these statistics do not break out hard currency trade with individual CEMA partners, a Hungarian press report indicated that more than one-half of Budapest's hard currency trade turnover with CEMA in 1978 resulted from trade with the Soviets. Hungary recorded a $58 million hard currency deficit with the USSR, approximately 20 percent of its total trade deficit in 1978 with the Soviet Union. [7]

The financing of surpluses could involve a credit entry in favor of the surplus holder on IBEC's books which the deficit partner must liquidate through future additional deliveries—a procedure analogous to the granting of transferable ruble credits. If surpluses become a regular occurrence, the resulting accumulation of future claims rather than hard currency receipts would reduce the creditor's interest in hard goods exchange. Consequently, a portion of IBEC's hard currency operations may involve the transfer of hard currency deposits to holders of surpluses from intra-CEMA hard goods trade—with the deficit partner being responsible for repayment to the bank.

Largely because of sharply increased prices for its raw material and energy exports, the USSR has accumulated substantial trade surpluses with Eastern Europe (except Romania) since 1974. Soviet trade statistics provide no indication of the amount of hard goods trade involved in total commerce with Eastern Europe. Nonetheless, assuming that (a) some of the USSR's surplus results from hard goods trade and (b) IBEC plays a role in crediting intra-CEMA hard goods exchanges, Eastern Europe presumably has built up some hard currency debt to IBEC as a result of trade with the USSR. The Hungarian trade data indicate that Budapest has been able to offset hard currency deficits with the USSR by surpluses with other CEMA partners. For the other CEMA countries, the size of accumulated deficits since 1974—with both the USSR and other East European countries—suggests that the GDR and to a lesser extent Poland, Czechoslovakia, and Bulgaria hold some hard currency obligations to IBEC resulting from intra-CEMA hard goods trade.

[7] "Hungary's Economic Cooperation With Socialist Countries Discussed," JPRS 73823, *Eastern Europe Report: Economic and Industrial Affairs*, 10 July 1979, No. 1913, pp. 22-31. (c)

Appendix A

Summary Tables for Soviet and East European Debt

The tables summarizing the country debt estimates developed by the procedures discussed in this paper are presented in this appendix. The first table in each country's section disaggregates yearend gross and net debt into various components: (a) commercial liabilities including borrowing from banks, promissory note financing, and unspecified other borrowing less the adjustment for double counting of officially supported credits; (b) hard currency assets held in Western banks; (c) Western officially supported credits; and (d) for Romania, borrowing from the IMF and World Bank. The second table of each section presents our measures of debt burden. The third table distributes debt by maturity. As discussed above, the maturity structure breakout includes short-term as well as medium- and long-term debt.

The fourth table summarizes our data on Western officially supported export credits: new commitments, drawings, debt, undrawn commitments, debt service, and total exposure. The values for commitments, drawings, debt, and exposure refer only to the principal of the loan and not to the stream of interest the borrowing country is obliged to pay on that principal. These tables are not internally consistent because of minor discrepancies and gaps in the original data. For example, undrawn commitments in 1971 should equal undrawn commitments in 1970 plus new 1971 commitments less 1971 drawings. Since we do not know the reasons for these discrepancies, we have not adjusted our computed series to make them totally consistent.

Table A-1 Million US $

USSR: Hard Currency Debt

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Commercial debt	407	858	2,041	2,787	6,947	9,667	9,858	10,316	9,500
Of which: Liabilities to Western banks	207	528	1,501	1,752	5,432	7,617	7,618	8,271	7,200
Officially guaranteed export credits	1,400	1,551	1,708	2,389	3,631	5,185	5,870	6,911	7,700
Commercial assets	1,225	1,854	2,583	3,522	3,127	4,738	4,498	6,010	7,000
Gross debt	1,807	2,409	3,749	5,176	10,578	14,853	15,728	17,227	17,200
Net debt	582	555	1,166	1,654	7,451	10,115	11,230	11,217	10,200

Table A-2

USSR: Measures of Hard Currency Debt Burden

	1972	1973	1974	1975	1976	1977	1978	1979 [1]
	Million US $							
Merchandise exports	2,801	4,790	7,470	7,835	9,721	11,345	13,157	19,524
Total revenues [2]	3,518	6,988	9,490	10,171	13,762	16,717	19,645	27,000
Gross debt	2,409	3,749	5,176	10,578	14,853	15,728	17,227	17,200
Principal repayment	306	397	625	969	1,386	1,975	2,352	2,800
Interest	170	332	508	804	1,012	1,140	1,769	1,954
Drawings	908	1,737	2,052	6,371	5,661	2,850	3,851	2,827
Net transfer	432	1,008	919	4,598	3,263	−265	−270	−1,927
	Percent							
Debt service as a share of merchandise exports	17	15	15	23	25	27	31	24
Debt service as a share of total revenues	14	10	12	17	17	19	21	18
Gross debt as a share of total revenues	68	54	55	104	108	94	88	64
Debt service as a share of drawings	52	42	55	28	42	109	107	168

[1] Preliminary
[2] Hard currency earnings from merchandise exports, sales of gold and arms, tourism, and transportation.

Table A-3

USSR: Debt Maturity Structure

	Due in 1980	Due in 1981	Due After 1981
	Million US $		
Commercial debt	4,740	1,040	3,720
Government-backed debt	1,675	1,625	4,400
Total	**6,415**	**2,665**	**8,120**
	Percent		
Share of total debt	37	15	47

Table A-4

Million US $

USSR: Summary Statistics on Government-Backed Export Credits [1]

	Total New Commitments	Total Drawings	Undrawn Commitments	Government-Guaranteed Export Credits	Debt Service	Total Exposure
1970	612	450	691	1,114	242	1,804
1971	373	511	616	1,400	329	2,016
1972	777	426	1,020	1,551	395	2,571
1973	1,415	495	2,704	1,708	471	4,412
1974	3,585	1,164	4,959	2,389	671	7,348
1975	2,388	1,972	5,394	3,631	1,014	9,025
1976	4,404	2,611	6,395	5,186	1,481	11,581
1977	2,892	1,991	7,166	5,870	1,804	13,036
1978	2,150	2,500	6,816	6,911	2,050	13,726
1979	NA	2,500	NA	7,700	2,364	NA

[1] Because of rounding, components may not add to the totals shown.

Table A-5

Million US $

Poland: Hard Currency Debt

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Commercial debt	420	856	1,951	3,586	6,547	9,159	10,393	13,430	16,000
Of which:									
Liabilities to Western banks	305	641	1,536	2,895	5,230	7,698	8,894	11,963	15,100
Officially backed debt	718	708	845	1,057	1,467	2,324	3,574	4,414	5,100
Guaranteed export credits	370	384	543	783	1,091	1,849	2,921	3,700	4,400
Other	348	324	302	274	376	475	653	714	700
Commercial assets	374	414	583	523	633	803	435	872	1,100
Gross debt	1,138	1,564	2,796	4,643	8,014	11,483	13,967	17,844	21,100
Net debt	764	1,150	2,213	4,120	7,381	10,680	13,532	16,972	20,000

Table A-6

Poland: Measures of Hard Currency Debt Burden

	1972	1973	1974	1975	1976	1977	1978	1979
	Million US $							
Non-Communist exports	1,796	2,529	3,883	4,123	4,441	4,882	5,499	6,335
Gross debt	1,564	2,796	4,643	8,014	11,483	13,967	17,844	21,100
Principal repayment	200	299	508	738	1,213	1,968	2,869	3,600
Interest	74	188	395	481	655	919	1,467	2,200
Drawings	626	1,531	2,355	4,109	4,682	4,452	6,746	6,856
Net transfer	352	1,044	1,452	2,890	2,814	1,565	2,410	1,056
	Percent							
Debt service as a share of exports	15	19	23	30	42	59	79	92
Gross debt as a share of exports	87	111	120	194	259	286	324	333
Debt service as a share of drawings	44	32	38	30	40	65	64	85

Table A-7

Poland: Debt Maturity Structure

	Due in 1980	Due in 1981	Due after 1981
	Million US $		
Commercial debt	6,760	3,055	6,185
Government-backed debt	1,349	1,219	2,532
Total	**8,109**	**4,274**	**8,717**
	Percent		
Share of total debt	38	20	41

Table A-8

Million US $

Poland: Summary Statistics on Government-Backed Export Credits [1]

	Total New Commitments	Total Drawings	Undrawn Commitments	Government-Guaranteed Export Credits	Debt Service	Total Exposure
1970	92.8	416.5	208.5	333.3	110.3	541.8
1971	179.7	147.3	146.0	370.0	144.3	515.9
1972	350.4	151.6	298.2	383.7	169.9	681.9
1973	562.1	343.2	840.1	543.0	237.6	1,383.1
1974	1,240.7	501.8	1,532.5	783.3	336.9	2,315.7
1975	1,967.6	571.5	2,008.8	1,091.1	366.7	3.099.8
1976	2,215.6	1,186.8	2,897.4	1,848.8	594.1	4,746.2
1977	3,087.7	1,821.2	4,763.4	2,921.4	996.3	7,684.9
1978	2,028.6	1,807.0	4,837.3	3,700.0	1,368.1	8,537.3
1979	NA	2,000.0	NA	4.400.0	1,802.0	NA

[1] Because of rounding, components may not add to the totals shown.

Table A-9

Million US $

German Democratic Republic: Hard Currency Debt

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Commercial debt	855	945	1,510	2,495	4,485	5,043	6,140	7,729	8,800
Of which:									
Liabilities to Western banks	695	720	1,225	2,130	4,000	4,423	5,227	6,712	7,800
Officially backed debt	553	609	626	641	703	813	1,005	1,165	1,340
Guaranteed export credits	418	459	426	391	403	493	635	745	850
Other	135	150	200	250	300	320	370	420	490
Commercial assets	203	325	260	544	1,640	809	986	1,346	1,700
Gross debt	1,408	1,554	2,136	3,136	5,188	5,856	7,145	8,894	10,140
Net debt	1,205	1,229	1,876	2,592	3,548	5,047	6,159	7,548	8,440

Table A-10

German Democratic Republic: Measures of Hard Currency Debt Burden

	1972	1973	1974	1975	1976	1977	1978	1979
	Million US $							
Non-Communist exports	1,642	2,230	3,014	3,062	3,643	3,395	3,750	4,550
Gross debt	1,554	2,136	3,136	5,188	5,856	7,145	8,894	10,140
Principal repayment	208	276	367	468	708	867	1,113	1,400
Interest	93	159	271	307	350	435	725	1,075
Drawings	354	858	1,367	2,520	1,376	2,156	2,862	2,646
Net transfer	53	423	729	1,745	318	854	1,024	171
	Percent							
Debt service as a share of exports	18	20	21	25	29	38	49	54
Gross debt as a share of exports	95	96	104	169	161	210	237	223
Debt service as a share of drawings	85	51	47	31	77	60	64	94

Table A-11

German Democratic Republic: Debt Maturity Structure

	Due in 1980	Due in 1981	Due After 1981
	Million US $		
Commercial debt	3,995	1,732	3,073
Government-backed debt [1]	219	211	420
Total	**4,214**	**1,943**	**3,493**
	Percent		
Share of total debt	44	20	36

[1] Excluding obligations to the FRG under Swing Account.

Table A-12

Million US $

German Democratic Republic: Summary Statistics on Government-Backed Export Credits [1]

	Total New Commitments	Total Drawings	Undrawn Commitments	Government-Guaranteed Export Credits	Debt Service	Total Exposure
1970	140.0	359.5	55.6	306.8	76.0	362.6
1971	159.4	197.3	17.0	418.3	118.6	435.3
1972	52.0	152.1	0	458.7	148.7	458.7
1973	106.5	95.8	57.0	426.0	164.6	483.1
1974	91.2	113.3	148.7	391.0	183.4	539.7
1975	528.9	184.6	583.6	403.1	210.0	986.7
1976	527.7	304.3	829.0	492.6	263.1	1,321.6
1977	483.4	324.7	1,177.0	634.8	240.1	1,811.8
1978	841.0	311.2	2,043.8	745.1	268.5	2,788.8
1979	NA	340.0	NA	850.0	318.0	NA

[1] Because of rounding, components may not add to the totals shown.

Table A-13

Million US $

Hungary: Hard Currency Debt

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Commercial debt	968	1,294	1,353	2,053	3,081	3,998	5,596	7,380	7,900
Of which:									
Liabilities to Western banks	943	1,219	1,278	1,938	2,830	3,722	5,135	6,880	7,400
Officially guaranteed export credits	103	98	89	76	54	51	59	93	120
Commercial assets	223	337	346	592	940	1,197	1,164	941	700
Gross debt	1,071	1,392	1,442	2,129	3,135	4,049	5,655	7,473	8,020
Net debt	848	1,055	1,096	1,537	2,195	2,852	4,491	6,532	7,320

Table A-14

Hungary: Measures of Hard Currency Debt Burden

	1972	1973	1974	1975	1976	1977	1978	1979
	Million US $							
Non-Communist exports	994	1,407	1,688	1,691	1,945	2,185	2,535	3,361
Gross debt	1,392	1,442	2,129	3,135	4,049	5,655	7,473	8,020
Principal repayment	62	84	115	120	172	218	287	396
Interest	78	140	207	204	230	330	624	840
Drawings	383	134	802	1,126	1,086	1,824	2,105	943
Net transfer	243	−90	480	802	684	1,276	1,197	−293
	Percent							
Debt service as a share of exports	14	16	19	19	21	25	36	37
Gross debt as a share of exports	140	102	126	185	208	259	295	239
Debt service as a share of drawings	37	167	40	29	37	30	43	131

Table A-15

Hungary: Debt Maturity Structure

	Due in 1980	Due in 1981	Due After 1981
	Million US $		
Commercial debt	4,240	647	3,013
Government-backed debt	33	32	55
Total	**4,273**	679	3,068
	Percent		
Share of total debt	53	8	38

Table A-16

Million US $

Hungary: Summary Statistics on Government-Backed Export Credits [1]

	Total New Commitments	Total Drawings	Undrawn Commitments	Government-Guaranteed Export Credits	Debt Service	Total Exposure
1970	57.1	118.9	28.3	101.8	24.8	130.2
1971	27.6	21.9	30.7	103.0	28.8	133.7
1972	7.3	19.1	23.4	98.2	31.9	121.6
1973	19.8	18.3	37.0	89.4	34.6	126.4
1974	27.0	16.5	49.4	76.0	36.8	125.4
1975	60.3	9.1	104.9	53.7	36.9	158.6
1976	19.4	33.6	88.3	50.5	42.7	138.9
1977	27.2	29.9	46.8	59.0	27.1	105.9
1978	55.0	62.5	36.8	92.7	37.5	129.6
1979	NA	64.0	NA	120.4	47.5	NA

[1] Because of rounding, components may not add to the totals shown.

Table A-17

Million US $

Czechoslovakia: Hard Currency Debt

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Commercial debt	284	435	558	821	926	1,575	2,290	2,798	3,550
Of which:									
Liabilities to Western banks	149	230	278	431	426	1,035	1,532	2,000	2,750
Officially guaranteed export credits	201	195	199	227	206	287	326	408	470
Commercial assets	325	454	484	408	305	428	495	693	950
Gross debt	485	630	757	1,048	1,132	1,862	2,616	3,206	4,020
Net debt	160	176	273	640	827	1,434	2,121	2,513	3,070

Table A-18

Czechoslovakia: Measures of Hard Currency Debt Burden

	1972	1973	1974	1975	1976	1977	1978	1979
	Million US $							
Non-Communist exports	1,382	1,776	2,301	2,379	2,329	2,745	3,079	3,600
Gross debt	630	757	1,048	1,132	1,862	2,616	3,206	4,020
Principal repayment	95	133	186	236	250	297	360	400
Interest	39	69	105	88	106	161	281	385
Drawings	240	260	477	320	980	1,051	940	1,214
Net transfer	106	58	186	-4	624	593	309	429
	Percent							
Debt service as a share of exports	10	11	13	14	15	17	20	22
Gross debt as a share of exports	46	43	46	48	80	95	104	112
Debt service as a share of drawings	56	78	61	101	36	44	67	65

Table A-19

Czechoslovakia: Debt Maturity Structure

	Due in 1980	Due in 1981	Due After 1981
	Million US $		
Commercial debt	2,088	284	1,178
Government-backed debt	145	129	196
Total	**2,233**	**413**	**1,374**
	Percent		
Share of total debt	56	10	34

Table A-20

Million US $

Czechoslovakia: Summary Statistics on Government-Backed Export Credits

	Total New Commitments	Total Drawings	Undrawn Commitments	Government-Guaranteed Export Credits	Debt Service	Total Exposure
1970	41.2	196.7	69.0	163.4	46.1	232.4
1971	70.7	88.2	41.3	200.8	67.2	242.1
1972	112.5	55.6	82.1	194.6	78.5	276.7
1973	103.6	82.0	156.1	198.8	95.7	354.9
1974	79.2	132.2	149.3	227.3	125.3	376.6
1975	337.9	96.5	401.1	206.1	138.9	607.2
1976	119.2	183.4	333.1	287.1	129.2	620.2
1977	185.9	157.6	421.0	325.8	150.3	746.7
1978	202.0	226.3	476.1	407.9	184.1	884.0
1979	NA	217.0	NA	470.0	200.0	NA

Table A-21

Million US $

Bulgaria: Hard Currency Debt

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Commercial debt	442	765	818	1,520	2,453	2,878	3,394	3,935	4,180
Of which: Liabilities to Western banks	397	705	748	1,420	2,033	2,433	2,866	3,422	3,640
Officially backed debt	301	244	202	183	187	320	313	328	320
Guaranteed export credits	208	177	129	101	111	236	262	269	270
Other	93	67	73	82	76	84	51	59	50
Commercial assets	20	100	23	343	383	442	538	553	770
Gross debt	743	1,009	1,020	1,703	2,640	3,198	3,707	4,263	4,500
Net debt	723	909	997	1,360	2,257	2,756	3,169	3,710	3,730

Table A-22

Bulgaria: Measures of Hard Currency Debt Burden

	1972	1973	1974	1975	1976	1977	1978	1979
	Million US $							
Non-Communist exports	509	679	921	937	1,058	1,270	1,572	2,310
Gross debt	1,009	1,020	1,703	2,640	3,198	3,707	4,263	4,500
Principal	128	125	158	149	233	336	352	415
Interest	54	92	149	164	181	236	373	470
Drawings	394	136	841	1,086	791	845	908	652
Net transfer	212	−81	534	773	377	273	183	−233
	Percent							
Debt service as a share of exports	36	32	33	33	39	45	46	38
Gross debt as a share of exports	198	150	185	282	302	292	271	195
Debt service as a share of drawings	46	160	37	29	52	68	80	136

Table A-23

Bulgaria: Debt Maturity Structure

	Due in 1980	Due in 1981	Due After 1981
	Million US $		
Commercial debt	2,300	640	1,240
Government-backed debt	89	83	148
Total	**2,389**	**723**	**1,388**
	Percent		
Share of total debt	53	16	31

Table A-24

Million US $

Bulgaria: Summary Statistics on Government-Backed Export Credits

	Total New Commitments	Total Drawings	Undrawn Commitments	Government-Guaranteed Export Credit	Debt Service	Total Exposure
1970	89.3	220.5	104.8	176.5	58.3	281.3
1971	49.5	93.5	51.6	207.5	80.1	259.1
1972	50.2	39.8	49.5	176.9	86.4	226.3
1973	41.9	27.8	119.5	129.1	88.9	248.6
1974	75.5	58.1	165.5	100.5	99.0	266.0
1975	238.0	66.3	347.3	111.1	66.7	458.3
1976	135.5	195.3	241.0	236.4	92.5	477.4
1977	124.7	107.4	330.6	262.2	106.0	592.8
1978	122.0	100.9	394.2	269.0	120.2	663.2
1979	NA	105.0	NA	270.0	129.0	NA

Table A-25

Million US $

Romania: Hard Currency Debt

	1971	1972	1973	1974	1975	1976	1977	1978	1979
Commercial debt	585	597	682	1,780	2,024	1,841	2,306	3,609	5,100
Of which: Liabilities to Western banks	405	332	357	975	1,189	936	1,379	2,692	3,800
Officially backed debt	642	652	814	797	706	659	715	800	905
Guaranteed export credits	612	633	717	688	605	550	647	721	830
Other	30	19	97	109	101	109	68	79	75
Other borrowing	0	0	115	116	194	403	584	812	945
IMF position	0	0	115	116	158	331	368	392	385
IBRD loans	0	0	0	0	36	72	216	420	560
Commercial assets	NEGL	45	116	210	475	375	217	229	250
Gross debt	1,227	1,249	1,611	2,693	2,924	2,903	3,605	5,221	6,950
Net debt	1,227	1,204	1,495	2,483	2,449	2,528	3,388	4,992	6,700

Table A-26

Romania: Measures of Hard Currency Debt Burden

	1972	1973	1974	1975	1976	1977	1978	1979
	Million US $							
Non-Communist exports	1,265	1,804	2,762	2,884	3,323	3,638	4,350	5,350
Gross debt	1,249	1,611	2,693	2,924	2,903	3,605	5,221	6,950
Principal repayment	247	321	399	460	420	496	528	573
Interest	90	126	208	207	174	203	351	601
Drawings	269	683	1,481	691	399	1,198	2,142	2,304
Net transfer	−68	236	874	24	−195	499	1,263	1,130
	Percent							
Debt service as a share of exports	27	25	22	23	18	19	20	22
Gross debt as a share of exports	99	89	98	101	87	99	120	130
Debt service as a share of drawings	125	65	41	97	149	58	41	51

Table A-27

Romania: Debt Maturity Structure

		Due in 1981	Due After 1981
	Million US $		
Commercial debt	2,950	415	1,735
Government-backed debt	246	209	450
IMF, IBRD borrowing	36	37	872
Total	**3,232**	**661**	**3,057**
	Percent		
Share of total debt	47	10	44

Table A-28

Million US $

Romania: Summary Statistics on Government-Backed Export Credits

	Total New Commitments	Total Drawings	Undrawn Commitments	Government-Guaranteed Export Credits	Debt Service	Total Exposure
1970	128.6	697.9	84.2	580.9	162.4	665.0
1971	228.3	178.9	127.6	612.2	196.9	739.8
1972	209.1	203.0	176.7	633.2	235.1	809.9
1973	331.5	320.5	329.6	717.3	298.4	1,046.9
1974	246.8	249.2	322.1	688.3	341.4	1,010.4
1975	288.4	228.6	472.4	604.6	372.3	1,077.0
1976	313.7	171.0	449.3	550.3	277.4	999.5
1977	328.7	348.1	573.0	647.0	313.9	1,220.1
1978	266.0	346.6	516.2	720.7	343.8	1,236.9
1979	NA	402.0	NA	830.0	373.0	NA

Appendix B

Estimated Indebtedness of the CEMA Banks to Western Commercial Banks

The value of time deposits and loans obtained from Western commercial banks by CEMA's IBEC and IIB can be estimated from the balance sheets and annual reports of the two CEMA banks. IBEC's annual reports quote, in transferable rubles, the total of hard currency funds obtained through time deposits, loans, and on current account (presumably demand deposits). Additional data permit this aggregate to be broken down into its components. IBEC annual reports typically state the amount of hard currency received on current account. The liability line item, "Loans Received," carried on the IBEC balance sheet is entirely hard currency, since the bank's charter states that IBEC can raise loans only in hard currency (line 2 of table B-1). By netting the hard currency balance reported as being "on current account" and the "Loans Received" total against the aggregate of hard currency funds reported by IBEC, we derive the amount of hard currency time deposits placed with IBEC (line 1).

Comparison of IIB's publicized Eurodollar syndications with the totals recorded under "Loans and Borrowings Obtained" on the IIB balance sheet strongly suggests that this entry reflects IIB's hard currency indebtedness (line 3). The totals reported by IIB for its borrowings somewhat exceed the amount of its publicized syndications; however, the bank undoubtedly has obtained medium-term bank-to-bank loans in addition to its known syndications.

Table B-1

Million US $

Estimated Indebtedness of the CEMA Banks to Western Commerical Banks

	1970	1971	1972	1973	1974	1975	1976	1977	1978
IBEC hard currency time deposit liabilities	670	544	1,418	1,625	1,856	2,464	2,772	2,906	3,078
IBEC loans received (from balance sheet) [1]	31	93	236	264	394	572	426	493	597
IIB loans received (from balance sheet) [1]	0	0	0	50	135	684	1,411	2,139	2,750
IBEC and IIB hard currency debt from time deposits and loans	701	637	1,654	1,939	2,385	3,720	4,609	5,538	6,425
Estimated CEMA bank net indebtedness to Western banks [2]	526	478	1,240	1,454	1,789	2,790	3,457	4,154	4,819

[1] The IIB and IBEC balance sheet entries are expressed in transferable ruble. The ruble/dollar exchange rates for the respective years were used to compute the amounts shown in this table.
[2] Estimated net indebtedness to Western banks is assumed to be roughly equal to 75 percent of hard currency time deposits and loans as presented in line 4.

The indebtedness totals derived by summing IBEC time deposit liabilities, IBEC loans received, and IIB borrowings (line 4) overstate the net liabilities of the two banks to Western banks. Some of the hard currency liabilities appearing on the IIB and IBEC balance sheets probably stem from hard currency loans between the two CEMA banks and time deposits placed by the national banks of CEMA members with IBEC. Also, the two banks hold some funds in Western banks. We thus estimate the net liabilities of the CEMA banks to Western banks included in the BIS survey at 75 percent of the line 4 totals (line 5).

A thoroughly consistent estimate of Soviet commercial assets should be adjusted to account for IIB and IBEC assets included by the BIS in the Soviet position. We have insufficient data, however, to estimate the amount of such assets which are undoubtedly a very small portion of total Soviet claims on Western banks. For this reason, we do not estimate an explicit offset to total Soviet assets. As described above, we implicitly account for IIB and IBEC assets in deriving the totals shown in line 5. In all likelihood, the lack of separate estimates of gross and net debt for the CEMA banks does not materially affect the estimates of gross and net Soviet commerical debt.